



# **APPENDIX C**

**(CLEAN VERSION OF CLAIMS)**

**(Serial No. 10/028,075)**



## CLAIMS

What is claimed is:

1. A method for obtaining information about the capacity or tendency of an oligopeptide, or a modification or derivative thereof, to regulate expression of a gene comprising the steps of:
  - a) contacting said oligopeptide, or a modification or derivative thereof, with at least one cell;
  - b) determining the presence of at least one gene product in or derived from said cell.
2. The method according to claim 1 wherein said oligopeptide comprises an amino acid sequence corresponding to a fragment of a naturally occurring polypeptide.
3. The method according to claim 2 wherein said naturally occurring polypeptide comprises human chorionic gonadotropic hormone (hCG).
4. (Amended) The method according to claim 1 wherein said cell comprises an eukaryotic cell.
5. (Amended) The method according to claim 1 further comprising
  - c) determining the presence of said gene product in or derived from a cell which has not been contacted with said oligopeptide, or a modification or derivative thereof, and determining the ratio of gene product found in step b to gene product found in step c.

6. A method for identifying or obtaining a signalling molecule comprising a peptide or functional derivative or analogue thereof capable of modulating expression of a gene in a cell comprising providing said cell with a peptide or derivative or analogue thereof and determining the activity and/or nuclear translocation of a gene transcription factor and then synthesising the molecule with the desired activity.

7. The method according to claim 6 further comprising determining whether said signalling molecule is membrane-permeable.

8. (Amended) The method according to claim 6 wherein said gene transcription factor comprises a NF-kappaB/Rel protein.

9. A method for identifying or obtaining a signalling molecule comprising a peptide or functional derivative or analogue thereof capable of modulating expression of a gene in a cell comprising providing said cell with a peptide or derivative or analogue thereof and determining relative up-regulation and/or down-regulation of at least one gene expressed in said cell and then synthesising the molecule with the desired activity.

10. (Amended) The method according to claim 9 further comprising determining relative up-regulation and/or down-regulation of at least one gene expressed in said cell.

11. (Amended) The method according to claim 6 further comprising determining relative up-regulation and/or down-regulation of a multitude of genes expressed in said cell.

12. A method for identifying or obtaining a signalling molecule comprising a peptide or functional derivative or analogue thereof capable of modulating expression of a gene in a cell comprising providing a peptide or derivative or analogue thereof and determining binding of said peptide or derivative or analogue thereof to a factor related to gene control and then synthesising the molecule with the desired activity.

13. The method according to claim 12 further comprising providing a multitude of peptides or derivatives or analogues thereof and determining binding of at least one of said peptides or derivatives or analogues thereof to a factor related to gene control.

14. (Amended) The method according to claim 12 wherein said factor related to gene control comprises a transcription factor.

15. The method according to claim 14 wherein said transcription factor comprises a NF-kappaB-Rel protein.

16. (Amended) The method according to claim 12 further comprising providing a cell with said peptide or derivative or analogue thereof and determining the activity and/or nuclear translocation of a gene transcription factor in said cell.

17. (Amended) The method according to claim 12 further comprising providing a cell with said peptide or derivative or analogue thereof and determining relative up-regulation and/or down-regulation of at least one gene expressed in said cell.

18. (Amended) A signalling molecule useful in modulating expression of a gene in a cell and identifiable or obtainable by employing a method according to claim 1.

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19. (Amended) A signalling molecule according to claim 18 selected from the group of peptides LQG, AQG, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:19, SEQ ID NO:3, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:34, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42 MTR, VVC, and functional analogues or derivatives thereof.

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20. A signalling molecule capable of modulating expression of a gene in a cell comprising a peptide of at most 30 amino acids or a functional analogue or derivative thereof.

21. A signalling molecule according to claim 20 wherein said peptide is an oligopeptide of from about 3 to at about 15 amino acids long.

22. A modulator of NF-kappaB/Rel protein activation comprising a signalling molecule according to anyone of claims 18 to 21.